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10/527,650	09/23/2005	Gary D Spinks	930058-2003	7112

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EXAMINER	
SYKES, ALTREV C	

ART UNIT	PAPER NUMBER
1794	

MAIL DATE	DELIVERY MODE
03/03/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/527,650	SPINKS, GARY D	
	Examiner	Art Unit	
	ALTREV C. SYKES	1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *24 November 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-42* is/are pending in the application.

4a) Of the above claim(s) *18-38 and 42* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-17 and 39-41* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *14 March 2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *20081124*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed November 24, 2008 have been fully considered but they are not persuasive.

Applicant argues the rejection of claims 1, 2, 4, 7, 13, 15, 16, 39, and 41 under 35 U.S.C. 103(a) as being unpatentable over Boehm (US 4,897,300). Applicant argues Boehm does not teach or suggest every element of the instant claims. Applicant argues Boehm relates to a security thread that is printed with luminescent colors. Security thread differs from security fibre, and one skilled in the art would not be motivated to transfer techniques known to thread technology to fibers in light of these differences. In addition, the differences between security fibers and security threads are illustrated in how they are applied in paper products. Furthermore, it is known in the art that security fibres are less complex than security threads and may comprise less expensive material, while security threads may be more complex and expensive since fewer threads are required in each paper product. (See pgs. 9-10)

Examiner is not persuaded by the argument of the difference between a security thread and a security fiber. Examiner first notes that Merriam-Webster Online Dictionary defines a fiber as a thread or a structure or object resembling a thread. Therefore, examiner equates the security thread of Boehm to the security fiber of applicant. In response to applicant's argument that the reference fails to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., how the fibers are applied in paper products and the cost of the materials used therein) are not

recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Applicant argues the rejection of claims 2-7, 14, and 40 under 35 U.S.C. 103(a) as being unpatentable over Boehm (US 4,897,300) in view of Kaule et al. (US 4,756, 557). Applicant argues Kaule et al. does not teach or suggest how these features used in security threads can be applied to security fibers. Applicant also argues that Boehm teaches away from having regions with no overlap of colour at the boundaries, as claimed.

Examiner is not persuaded and maintains the position as set forth above for the equivalence of threads and fibers. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.,* 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). Additionally, examiner notes that Boehm does not teach away from regions with no overlap of colour at the boundaries but highlights the use of overlapping portions. Boehm discloses using luminescent colors that are provided along the security thread in successive *and* overlapping portions. (See Col 1, lines 52-55 *emphasis* added) Disclosed examples and preferred embodiments do not constitute a teaching away from a broader disclosure or nonpreferred embodiments. *In re Susi*, 440 F.2d 442, 169 USPQ423 (CCPA 1971). Boehm discloses one can select the succession of the colors in particular so as to produce the order of colors in the natural

spectrum. (See Col 2, lines 4-7) Additionally, it is noted that printing of the colors are not limited by the disclosure thereby providing one of ordinary skill in the art several methods for carrying out the desired color configuration. (See Col 4, lines 67-68) Therefore, examiner notes that one of ordinary skill in the art would have been easily motivated by expected success to use the explicit disclosure to modify the coloring of the thread for desired end use. Finally, Kaule et al. also discloses a security thread having at least three stripes extending lengthwise on the thread and arranged exactly parallel to each other, which differ in terms of their physical behavior, for example their color, their fluorescent or their magnetic properties. (See Col 2, lines 35-40) Therefore, one of ordinary skill in the art at the time of the invention would have been easily motivated by expected success to utilize the regions specifically taught by Kaule et al. which do not include overlapping regions with the desire to tailor the fiber with explicit test criterion for authenticity.

Applicant argues the rejection of claims 8-12 under 35 U.S.C. 103(a) as being unpatentable over Boehm (US 4,897,300) in view of Tillotson (US 3, 898, 035).

Examiner is not persuaded. Tillotson discloses a method for coloring yarn continuously in sheets having a more regular control of the color of dyed yarns, as well as the lateral and longitudinal distribution of colored portions of the yarn. (See Abstract and Col 1, lines 58-62) In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.,* 800 F.2d 1091, 231 USPQ 375 (Fed.

Cir. 1986). As Boehm and Tillotson are both directed to the coloring of fibers, the art is analogous. Boehm discloses one can select the succession of the colors in particular so as to produce the order of colors in the natural spectrum. (See Col 2, lines 4-7) Therefore, one of ordinary skill in the art would have been easily motivated to utilize the printing technique of Tillotson on the security threads of Boehm in order to modify the colored portions successions as suggested in Boehm. Finally, it is of no moment that Tillotson also discloses an apparatus for printing on the yarns since the motivation to combine comes from the technique of printing on fibrous material.

Applicant argues the rejection of claim 17 under 35 U.S.C. 103(a) as being unpatentable over Boehm (US 4,897,300) in view of Whitehead (US 2, 208, 653). Applicant argues Boehm relates to a security thread, wherein the thread is a strip of a tear-proof synthetic material. Applicant argues one skilled in the art would not consider the spun fibers of Whitehead to be paper fibers as recited in the claimed invention.

Examiner is not persuaded. Boehm discloses the use of a tear-proof synthetic material in reference to a carrier material for the security thread to impart strength. (See Col 5, lines 4-9) Boehm does not disclose that the fiber is a tear-proof synthetic material. Further, Boehm discloses that the thread may be embedded into a paper. (See Col 5, lines 25-27) Whitehead discloses identifiable paper and other cellulosic materials wherein the mark of identification comprises fibers which are fluorescent in ultra-violet light, soluble in solvents that have no effect on the cellulosic fibers and capable of being colored.(See Col 1, lines 1-9) Whitehead discloses the base material of the paper or other cellulosic article may be made from wood pulps, masticated paper, or mixtures of these. (See Col 2,

lines 33-41) Whitehead further discloses in the manufacture of the organic derivative of cellulose fiber by means known in the art, the fibers may be made to have a denier which varies. (See Col 4, lines 49-52) Therefore, examiner notes that the fiber is manufactured from paper as instantly claimed. Regarding applicants argument about the Whitehead fibers being produced through spinning, it is noted that the features upon which applicant relies are not recited in the rejected claim(s). It is noted that the instant claim only requires that the fiber be manufactured from paper. Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Additionally, disclosed examples and preferred embodiments do not constitute a teaching away from a broader disclosure or nonpreferred embodiments. *In re Susi*, 440 F.2d 442, 169 USPQ423 (CCPA 1971). As such, Whitehead discloses that the fibers may be dyed any suitable color prior to incorporation in the cellulosic materials. (See Col 4, lines 74-75) Therefore, examiner notes that the fibers may be produced using the spinning method and dyed (or printed) after the production of the fiber instead of during. (See Col 3, lines 45-49)

The rejections as set forth in the last mailed office action are maintained as set forth below.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

4. Claim 1, 2, 4, 7, 13, 15, 16, 39 and 41 is rejected under 35 U.S.C. 103(a) as being unpatentable over Boehm (US 4,897,300)

Regarding claims 1, 39 and 41, Boehm discloses a security thread provided with luminescent colors that are invisible in normal lighting and are provided along the security thread in successive and overlapping portions which, when the colors are excited, have a length recognizable to the naked eye and, each printed with different luminescent colors. (See Col 1, lines 4-7 and 52-58) The corresponding security paper need only be exposed to UV radiation. (See Col 2, lines 25-30) In UV light, the formerly colorless, inconspicuous security thread suddenly acquires an intensely colorful effect. (See Col 2, lines 44-47) The security thread that is printed with luminescent colors may be produced in the normal manner, i.e. by printing strip shapes on flat sheets and then cutting them up. (See Col 4, lines 56-58) It is also possible to print on individual threads. (See Col 4, lines 58-59) Additionally, Boehm discloses if carrier material is transparent, one need not worry about the constant orientation of the security thread during

embedding, since the emitted colors are also recognizable from the back of the security thread through the carrier material. (See Col 5, lines 9-13) If an opaque carrier material is used, however, one must make sure the security thread has constant orientation in the paper if the fluorescent effects are to appear on the same side in all security papers; otherwise the carrier material must be printed on both sides. (See Col 5, lines 13-19) Therefore, it is noted by examiner that it would have been obvious and within the ordinary skill of one in the art to provide a coating (i.e. printing) of the luminescent colors to the fiber that would be sufficient to act in the same manner as claimed by applicant in order to provide for the result as disclosed by Boehm of having luminescence seen from both sides of an embedded fiber.

Regarding claims 2, 4, 7, 13, 15 and 16 Boehm discloses a fiber wherein:

- said regions are striped regions and said striped regions include two or more differently coloured striped regions. (See Figure 1, Col 3, lines 49-56 and Col 4, lines 55-60)
- the coloured striped regions appear in the same order in a repeating pattern. (See Col 3, line 49-56)
- said striped regions include three or more differently coloured striped regions. (See Figure 1 and Col 3, lines 29-38)
- the regions are printed such that regions on the front and rear sides are in register with one another and have the same colour. (See Col 5, lines 4-18 wherein the emitted colors are recognizable from the back of the security thread)

- the fibre is cut from a larger fibre. (See Col 4, lines 56-60)
- wherein a varnish is applied to the outer surface of the fibre. (See carrier material Col 5, lines 4-18)

5. Claims 2-7, 14 and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Boehm (US 4,897,300) as applied to claim 1 above, in view of Kaule et al. (US 4,756, 557).

Boehm discloses all of the claim limitations as set forth above. However, the reference does not disclose said fibre comprises regions of color which do not overlap. Boehm further discloses one can select the succession of the colors in particular so as to produce the order of colors in the natural spectrum. (See Col 2, lines 4-7)

Kaule et al. also discloses a security document having a security thread embedded in the interior of the document visible in transmitted light. (See Col 1, lines 8-14) In a preferred embodiment, at least three stripes extending lengthwise on the thread and arranged exactly parallel to each other, which differ in terms of their physical behavior, for example their color, their fluorescent or their magnetic properties. (See Col 2, lines 35-40) They are arranged in a clearly and precisely defined correlation with one another in longitudinally parallel areas which are sharply delimited from one another. (See Col 4, lines 58-61 and Figure 2)

As Boehm and Kaule et al. are both directed to security threads having UV luminescence, the art is analogous. Therefore, one of ordinary skill in the art at the time of the invention would have been easily motivated by expected success to utilize the

regions specifically taught by Kaule et al. which do not include overlapping regions with the desire to tailor the fiber with explicit test criterion for authenticity. (See Col 2, lines 50-64)

Regarding claim 3, modified Boehm fails to teach said striped regions are placed at about l mm gradations. It would have been obvious to one of ordinary skill in the art at the time the invention was made to optimize the region distances since it has been held that, where the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation. *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955). The burden is upon the Applicant to demonstrate that the claimed region distances is critical and has unexpected results. In the present invention, one would have been motivated to optimize the striped region distances motivated by the desire to use the measurement of the width of the individual areas and the distances therebetween as another test criterion for the authenticity of the security threads. (See Kaule et al. Col 2, lines 50-64)

Regarding claims 4-7 and 14 modified Boehm discloses all of the claim limitations as set forth above.

Additionally, modified Boehm discloses a fiber wherein:

- the coloured striped regions appear in the same order in a repeating pattern. (See Figure 4b and Col 5, lines 47-65)
- said fibre comprises only two striped regions, the first striped region having a first colour and the second striped region having a second colour. (See Figure 4a and Col 5, lines 43-46)

- each of said striped regions covers half of said fibre. (See Col 4, lines 62-65 and Figure 4a)
- said striped regions include three or more differently coloured striped regions. (See Figure 4c and Col 5,lines 65-67)
- the regions abut one another with no overlap of colour at the boundaries of the regions. (See Col 4, lines 58-61)

Regarding claim 40, modified Boehm discloses:

- A fibre having a plurality of regions having printing visible on front and rear sides of said fibre, wherein said regions are coloured and the colours are visible only under ultra-violet light. (See Col 3, lines 60-67)

6. Claims 8-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Boehm (US 4,897,300) as applied to claim 1 above, in view of Tillotson (US 3, 898, 035).

Boehm discloses all of the claim limitations as set forth above but the reference does not specifically disclose the regions are arranged in a pseudo-random pattern.

Tillotson discloses a method for coloring yarn continuously in sheets having a more regular control of the color of dyed yarns, as well as the lateral and longitudinal distribution of colored portions of the yarn. (See Abstract and Col 1, lines 58-62) Tillotson also teaches a method of producing random or pseudo-random dyed yarn in a web, or ordered dyed yarns in a web using one or more colors. (See Col 1, lines 63-68) Further disclosed is the production of yarn dyed or printed with a predetermined pattern

of any desired configuration using one or more colors. (See Col 2 lines 1-3) It would have been prima facie case obviousness to one of ordinary skill in the art at the time of the invention to modify the number of colored regions of the dyed yarn as well as the length of each region in order to produce a yarn of sufficient longitudinal distribution. It is noted that yarn is recited by the Webster's Dictionary as a fine cord of twisted fibers.

As Boehm and Tillotson are both directed to the coloring of fibrous material, the art is analogous. Therefore, one of ordinary skill in the art would have been easily motivated to utilize the printing technique of Tillotson on the security threads of Boehm in order to modify the colored portions successions as suggested in Boehm.

7. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Boehm (US 4,897,300) as applied to claim 1 above, in view of Whitehead (US 2, 208, 653).

Boehm discloses all of the claim limitations as set forth above but the reference does not specifically disclose the fiber is manufactured from tissue paper.

Whitehead discloses identifiable paper and other cellulosic materials wherein the mark of identification comprises fibers which are fluorescent in ultra-violet light, soluble in solvents that have no effect on the cellulosic fibers and capable of being colored.(See Col 1, lines 1-9) Whitehead further discloses, sheet cellulosic material, such as tissue paper, and incorporated in said cellulosic material fibers, formed of or containing an organic ester of cellulose and a tertiary amine having at least two aryl substitution groups, of any desired denier, color, length, or mixtures of such fibers. (See Col 2, lines 10-19) The fibers may be incorporated in the cellulosic material in any suitable manner, such as by feeding a lap or roving formed of organic ester of cellulose fibers to the paper stock or

by forming a suspension of the said fiber and flowing it into the paper stock. (See Col 2, lines 20-31) It is noted that the fibers being composed of cellulosic materials would act as fibers of paper. Whitehead discloses the base material of the paper or other cellulosic article may be made from wood pulps, masticated paper, or mixtures of these. (See Col 2, lines 33-41) Whitehead further discloses in the manufacture of the organic derivative of cellulose fiber by means known in the art, the fibers may be made to have a denier which varies. (See Col 4, lines 49-52) Therefore, examiner notes that the fiber is manufactured from paper as instantly claimed. Whitehead discloses that the fibers may be dyed any suitable color prior to incorporation in the cellulosic materials. (See Col 4, lines 74-75) Therefore, examiner notes that the fibers may be produced using the spinning method and dyed (or printed) after the production of the fiber instead of during. (See Col 3, lines 45-49)

As Boehm and Whitehead are both directed to fibers which are printed with color for fluorescence, the art is analogous. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to utilize the cellulose derived fibers as taught by Whitehead as the fibers for coloring as disclosed by Boehm in order to provide an entirely expected fiber product which is fluorescence in ultra-violet light. (See Col 1, lines 1-5)

Conclusion

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to ALTREV C. SYKES whose telephone number is (571)270-3162. The examiner can normally be reached on Monday-Thursday, 8AM-5PM EST, alt Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Sample can be reached on 571-272-1376. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/David R. Sample/
Supervisory Patent Examiner, Art Unit 1794

/ACS/
Examiner
2/17/09